

Remarks

Favorable reconsideration of this application, in view of the above amendments and in light of the following remarks and discussion, is respectfully requested.

Applicants respectfully request entry of the amendments, as the amendments place the application in clear condition for allowance or alternatively place the claims in better form for appeal. Specifically, Applicants have amended independent claims to overcome outstanding rejections.

Upon entry of this response, Claims 1, 3-6, 8-11, 13-16, and 18-23, 25-30 are currently pending in the application; independent Claims 1, 6, 11, 16, 21, and 27-30 having been amended, and dependent Claim 24 having been canceled, by way of the present response. Applicants respectfully assert that support for the changes to the claims is self-evident from the originally filed disclosure, including the original claims, and that therefore no new matter has been added.¹

In the outstanding Office Action Claims 1, 4-6, 9-11, 14-16, 19-21, 23, 25, and 27-30 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,101,018 to Naiki et al. (Naiki) in view of U.S. Patent No. 6,246,463 to Hamada et al. (Hamada) and U.S. Patent No. 5,774,248 to Komatsu. Claims 3, 8, 13, 18, and 26 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and Komatsu, and further in view of Japanese Publication No. 5-6077 to Nakayama. Claim 22 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and Komatsu, and further in view of U.S. Patent No. 5,471,236 to Ito. Claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Naiki in view of Hamada and Komatsu, and further in view of U.S. Patent No. 4,393,387 to Kitamura. Applicants respectfully assert that the amendments to the claims have overcome the rejections for the following reasons.

¹ Please see, for example, page 13, lines 16 to 25, of Applicants' originally filed specification.

The present invention is directed to multi-beam scanning devices (e.g., as recited in independent Claims 1, 11, 21, 27, and 29), as well as image forming apparatuses (e.g., independent Claims 6, 16, 28, and 30). Each of the independent claims recites a subassembly including a holder having a mounting portion, an engaging section, and a projection, an array or means for emitting a laser disposed on the mounting portion of the holder, a collimator lens disposed on the projection, and an aperture disposed on the projection to cover the collimator. A bracket defines an engaging hole, the engaging hole of the bracket surrounding and contacting the engaging section of the holder. The holder and the bracket define voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions.

Applicants respectfully assert that none of Naiki, Hamada, and Komatsu, whether taken alone or in combination, teaches or suggests the claimed features of a subassembly including an array or means for emitting a laser disposed on a mounting portion of a holder, a collimator lens disposed on a projection of the holder, and an aperture disposed on the projection to cover the collimator, and a bracket defining an engaging hole surrounding and contacting the engaging section of the holder, the holder and the bracket defining voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions, as recited in independent Claims 1, 6, 11, 16, 21, and 27-30. Specifically, Applicants respectfully assert that none of Naiki, Hamada, and Komatsu shows or states the specified bracket, or the bracket and the holder defining voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions.

Applicants respectfully assert that the claimed features recited in independent Claims 1, 6, 11, 16, 21, and 27-30 provide numerous advantages. By way of specific non-limiting examples, Applicants respectfully assert that the claimed features can provide a device or apparatus in which a subassembly including the laser array or means, collimator, and aperture

can be disposed within a hole defined in the mounting bracket. The subassembly can be rotated relative to the bracket. After the position of the subassembly is adjusted such that light emitting points of the laser array are arranged in a line or substantially in a line (such as in a sub-scanning direction), the subassembly can be connected to the bracket. The connection can be achieved with the voids defined in the bracket and a holder of the subassembly, the voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions (such as through the uses of screws or other fasteners disposed in the voids). By this arrangement, adjustment of the device or apparatus can be easily performed.²

In particular, independent Claims 1, 6, 27, 28, recite “a subassembly comprising a holder comprising a mounting portion, an engaging section, and a projection, a laser diode array disposed on the mounting portion of the holder . . . , a collimator lens disposed on the projection, and an aperture disposed on the projection to cover the collimator, and a bracket defining an engaging hole, the engaging hole of the bracket surrounding and contacting the engaging section of the holder, wherein the holder and the bracket define voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions,” independent Claims 11 and 29 recite “a subassembly comprising a holder comprising a mounting portion, an engaging section, and a projection, a laser emitting means for emitting laser beams disposed on the mounting portion of the holder . . . , a collimator lens disposed on the projection, and an aperture disposed on the projection to cover the collimator, and a bracket defining an engaging hole, the engaging hole of the bracket surrounding and contacting the engaging section of the holder, wherein the holder and the bracket define voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions,” independent Claims 16 and 30 recite “a subassembly comprising a holder

² From page 13, line 16 to page 14, line 13, of Applicants’ originally filed specification.

comprising a mounting portion, an engaging section, and a projection, means for emitting laser beams disposed on the mounting portion of the holder . . . , a collimator lens disposed on the projection, and an aperture disposed on the projection to cover the collimator, and a bracket defining an engaging hole, the engaging hole of the bracket surrounding and contacting the engaging section of the holder, wherein the holder and the bracket define voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions,” and independent Claim 21 recites “a subassembly comprising a holder comprising a mounting portion, an engaging section, and a projection, a light beam emitting array disposed on the mounting portion of the holder . . . , a collimator lens disposed on the projection, and an aperture disposed on the projection to cover the collimator, and a bracket defining an engaging hole, the engaging hole of the bracket surrounding and contacting the engaging section of the holder, wherein the holder and the bracket define voids configured to permit connection of the holder and the bracket at a plurality of relative dispositions.”

Therefore, Applicants respectfully request that the rejection of independent Claims 1, 6, 11, 16, 21, and 27-30 under 35 U.S.C. § 103(a) be withdrawn, and the allowance of independent Claims 1, 6, 11, 16, 21, and 27-30.

Applicants respectfully assert that Claims 3-5, 8-10, 13-15, 18-20, 22, 23, 25, and 26 are allowable for the same reasons as the independent claims from which they depend, as well as for their own features. Thus, Applicants respectfully request that the rejections of dependent Claims 3-5, 8-10, 13-15, 18-20, 22, 23, 25, and 26 under 35 U.S.C. § 103(a) be withdrawn, and the allowance of dependent Claims 3-5, 8-10, 13-15, 18-20, 22, 23, 25, and 26.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in

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condition for formal Allowance. A Notice of Allowance for Claims 1, 3-6, 8-11, 13-16, and 18-23, 25-30 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below listed telephone number.

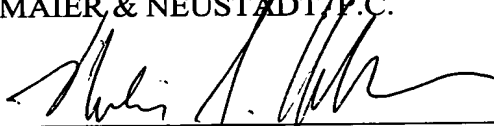
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